THE CHANGING TIDE

Winter 2006

Aquatic Invasive Species (AIS)

New Bilingual Poster Available Now!

Stop Aquatic Invaders on our Coast!

¡Detenga el Transporte de Especies Invasoras Acuaticas en Nuestras Costas!

Aquatic Invasive Species (AIS) pose significant ecological and economic threats to ecosystems in California and along the entire west coast of North America. Despite extensive use of pesticidal hull paints to control fouling and reduce drag (friction) hull-borne introductions continue to be a problem and, unlike a pollution discharge, AIS introduction leads to greater density over time through reproduction, can spread over greater distances, and persist longer.

Commercial shipping is believed to be responsible for most long-distance introductions due to hull transport while recreational boating is believed to be responsible for the transport of AIS along the coast from major ports to smaller harbors. For example, numerous AIS from San Francisco Bay have been found in Elkhorn Slough which drains to the Moss Landing small craft harbor.

Boating activities, such as races, fishing tournaments, and cruising to offshore islands or long distances, may allow AIS on boat hulls to spawn and attach to other boats that carry them home or to the next port of call.

This poster, published by The University of California Cooperative Extension - Sea Grant Extension Program in San Diego, is an effective tool for reducing AIS transport risks on recreational boat hulls and is suitable for posting on sheltered marina bulletin boards.

One half is in English, the other half is in Spanish!

It includes photos of invasive species transported by boat hulls, their potential impacts, where to report AIS findings, and recommendations on how to reduce their transport.

The poster is available for distribution throughout the U.S. and internationally.

For a copy of the poster, please contact:
Leigh Johnson at ltjohnson@ucdavis.edu or
Jamie Gonzalez at jagonzalez@ucdavis.edu

A California Clean Boating Network Publication
Presented by the
Santa Monica Bay Restoration Foundation, California Coastal Commission, the State Water Resources Control Board, and the California Bay Delta Program
in cooperation with the
California Department of Boating and Waterways and the California Integrated Waste Management Board

Southern California Chapter

Los Angeles, Orange, Riverside, Ventura & San Bernardino Counties

The New Zealand Mudsnail is the perfect invader

They may be small, but don't be fooled! New Zealand Mudsnails - an aquatic nuisance species already established in many western rivers and streams - have now been found in the Santa Monica Mountains. In large numbers, these small snails can completely cover a stream bed and wreak havoc on local aquatic ecosystems. Mudsnails easily attach themselves to wet gear and equipment and are transported from one recreational site to another. Local and state agencies and environmental organizations are now enlisting the help of local recreationalists in preventing the spread of the New Zealand Mudsnail waterways in Southern California.

In some ways, the New Zealand Mudsnail is the perfect invader. Mudsnails reproduce parthenogenetically-- that is, by cloning themselves. It only takes a SINGLE snail to produce an invasion. In fact, a single snail can result in a colony of more than 40 million snails in just one year! New Zealand Mudsnails can completely cover a streambed, crowding out the native aquatic insects that provide food for native creek animals, including local endangered species like steelhead, tidewater goby, and the red-legged frog.

Half of all endangered species in the United States are being threatened by invasive who eat them, eat their food, crowd them out, and destroy their natural habitats. Aquatic nuisance species (such as the parasite that causes whirling disease) can devastate native fish populations and some invasive species can even harm human health. Boaters, recreational fishers, and all those who enjoy California's waterways have a stake in preventing the spread of aquatic invaders.

Mudsnails are brown or black in color and can be as small as a grain of sand and reach lengths of up to an 1/8 of an inch. Photo by D. Gustafson, Montana State University.

Prevent the spread of New Zealand Mudsnails

How can you help?

- Drain livewells, bait tanks, and bilge water before traveling and before returning.
- Remove any visible mud, plants, fish or animals before transporting equipment or gear.
- Clean and dry anything that came in contact with water (boats, trailers, equipment, clothing, dogs, etc.).
- NEVER release plants, fish or animals into a body of water unless they came out of that body of water.

Tips courtesy of Protect Your Waters and University of California Cooperative Extension

To learn more about invasive species and how to prevent their spread, you can check out the following web sites:

- www.protectyourwaters.net
- www.mudsnails.com
- ww.invasivespeciesinfo.gov

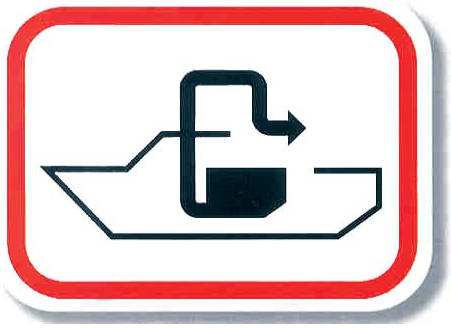
Contact Jack Topel for more information about this article:

jtopel@waterboards.ca.gov

Southern California Chapter

Los Angeles, Orange, Riverside, Ventura & San Bernardino Counties

The national pumpout symbol marks sewage pumpout stations wherever you boat!



Over a hundred different intestinal pathogens such as viruses, parasites and bacteria can be found in sewage that can be harmful to humans, aquatic organisms, and drinking water quality. In California, it is illegal to discharge raw sewage over board. Pumping out instead of pumping overboard can help make a real difference in keeping California waterways clean. If you have never used a sewage pumpout before, here are some simple steps you can take to successfully pumpout your waste.

10 Easy Steps to a Successful Sewage Pumpout

1. Remove cap from the waste fitting on boat's deck.
2. Make sure hose valve is closed while system is not in operation (see **Figure 1** for a picture of a closed valve).
3. Turn pump on.
4. Insert hose into holding tank opening.
5. Open valve to start suction.
6. When sewage can no longer be seen through hose site glass, close valve and remove hose from holding tank opening.
7. If desired, rinse holding tank by filling it with water and pumping it dry. You may want to rinse your tank with water a few times until the water passing through the site glass is clear. Rinsing helps loosen and clean out hard to get deposits, as well as clear any solids clogging the hose.
8. After you are done pumping out, make sure pumpout is off (many pumpouts are set with an automatic timer).
9. Hang up hose. Help keep area neat and clean for your fellow boaters.
10. Replace cap on the deck's waste fitting.

Figure 1. Notice the blue handle is positioned perpendicular to the pumpout hose. This means the hose is "closed". To open the valve, simply turn the handle until it stops. If you need to create vacuum pressure in the hose, sometimes it helps to quickly open and close the valve a few times in a row while the nozzle is inserted into the holding tank opening.

If the pumpout is broken...

Troubleshooting Tips

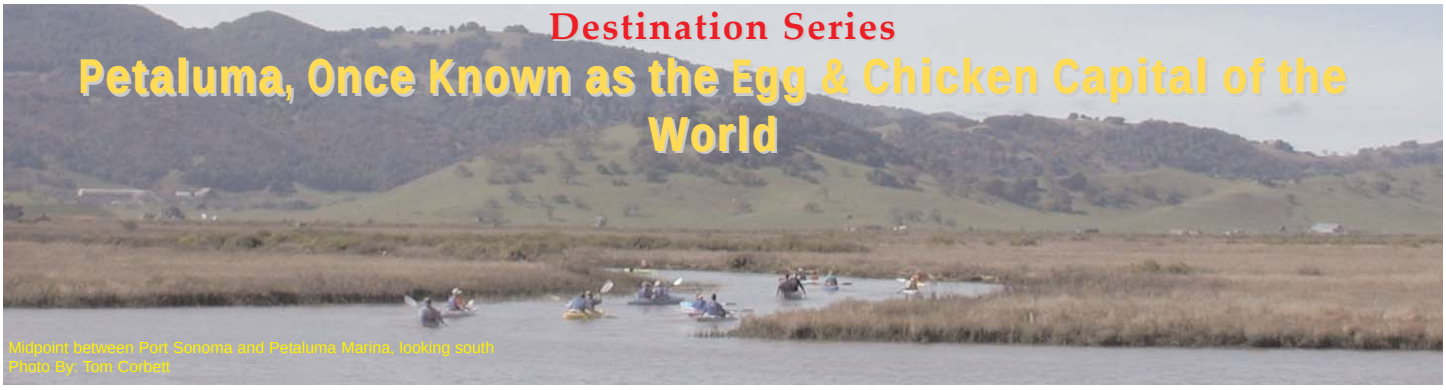
A pumpout may appear to have little or no suction power if there is something clogging the line. Try to flush the line by placing the pumpout nozzle in a bucket of water. Open the hose valve to start suction, and flush line for 45 seconds to rinse the hose. Watch the site glass to check water flow.

A pumpout may have weak suction power if the hose is still coiled up. Straighten hose before pumping out.

If you are not sure if the pumpout is still on, the unit is usually equipped with a counter by the on/off button. If the counter is scrolling, the pumpout is on. If the counter is not moving, turn the pumpout back on.

If the machine still doesn't turn on or you don't see water flowing past the site glass, contact your marina manager's office or local harbor patrol for assistance.

News from the Northern Chapter



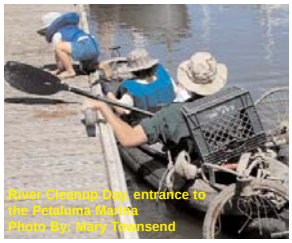
Destination Series

Petaluma, Once Known as the Egg & Chicken Capital of the World

Midpoint between Port Sonoma and Petaluma Marina, looking south
Photo By: Tom Corbett

The Petaluma area is located in Sonoma County aproximately 39 miles north of the Golden Gate Bridge. The area is beautified by the Petaluma River which flows from the farmland northwest of Petaluma, through the heart of Petaluma's old town; on through extensive marshes, before reaching the northwest corner of San Pablo Bay.

Petaluma was originally the name of a Miwok tribe that resided east of the river at the location of the present day town. The area was pioneered by the Spanish in 1776. Due to the region's productive farmland, Petaluma soon became known for its grain milling and chikcen processing industries. As a result, commercial scow schooner and steam paddle-wheel traffic carried eggs, chickens, lumber, oyster shells and other products to and from San Francisco for many years. The paddle wheelers no longer appear but the *Alma*, one of many scow-schooners, still visits Petaluma for special occasions such as the Spring Butter & Eggs Day parade.



River Cleanup Day, entrance to the Petaluma Marina
Photo By: Mary Townsend

Petaluma and its River are now a popular destination for year-round recreational boaters and visitors from all over the Bay Area. Last year the region was selected as one of the "Top Ten Bay Area Leisure Boating Destinations" by Latitude 38 magazine. Boaters enjoy the area because it offers a host of land and water-based outdoor adventures for visitors, including kayaking, hiking, biking, as well as a variety of museums, antique shops and restaurants. Visitors can also enjoy Petaluma's historic downtown and the many vintage buildings and Victorian style homes.

Contributing Writters: Tom Corbett (Petaluma Yacht Club) and Vivian Matuk (Boating Clean & Green Campaign)

Turning Basin
Photo By: Linda Corbett

It takes about three hours to motor the 14 miles from Port Sonoma Marina (at the river mouth and San Pablo Bay) to the Turning Basin and the City's public docks. On the way, you will pass Lakeville Marina (an early paddle wheel stop), Haystack Landing (with its train turntable), the Petaluma Marina and Foundry Wharf. You will also experience up-close encounters with bird sanctuaries, rolling hills, vineyards and historical sites. Just before the Turning Basin, the D St. draw-bridge opens for scheduled passage (M-F:707-778- 4303/Sat-Sun:778-4372).

On the Turning Basin you will find the Petaluma Yacht Club (1978). The club is an all-volunteer facility with bar, shower/restrooms and limited kitchen facilities. The club works closely with the Petaluma Visitor Program (707-769-0429) and the City to schedule overnight stays in the Turning Basin. The club also supports the City by organizing many annual events such as the Lighted Boat Parade,the Opening Day River Festival and the annual River Cleanup Day. Don't miss the opportunity to come and visit the gateway to the wine country and celebrate Petaluma's upcoming 150th anniversary.

Services for Boaters in the Petaluma Region

Gilardi's Lakeville Marina (707) 763-7555
Facilities: Storage, 15 boat slips.

Petaluma Marina (707) 778-4489
Facilities: Launch ramp, 196 boat slips, fuel dock, showers and restrooms.
Environmental Services: Sewage pumpout

Petaluma Yacht Club (707) 765-9725
Ameneties: Club House and club bar. *Facilities:* Shower and restrooms.

Port Sonoma Marina (707) 778-8055
Facilities: Storage, 280 boat slips, 150 dry storages, showers and restrooms.
Ameneties: Bait shops
Environmental Services: Sewage pumpout, used oil collection, oil filter collection, marine battery drop-off, oil absorbent exchange program.

News from the Northern Chapter

Partnerships Between Marinas and Contractors

Marina environmental policies are a very helpful tool for marinas to set standards for tenants, visitors, contractors and staff for acceptable environmental practices at the facility. A number of marinas throughout the state have developed written procedures for contractors who work at marinas in order to protect the marina environment and prevent pollutants from entering the water.

Some examples of marinas implementing environmental policies for contractors include: Loch Lomond Marina (Marin County), Sunroad Resort Marina (San Diego County), Lake Don Pedro Marina (Tuolumne County), Santa Barbara Harbor (Santa Barbara County), Vallejo Marina (Solano County), among others.

The City of Brisbane Marina (San Mateo County) released the "Marina's Best Management Practices Guide for Vendors/Contractors/Boat Servicers" in September, 2006. This publication is designed to assist contractors in keeping the marina environment clean and providing quality services to the boaters in the marina. Ted Warburton, the City of Brisbane Marina's harbormaster, developed this new publication using several resources including the Boating Clean and Green Campaign's California Clean Marina Toolkit and the Clean Green Boat Maintenance Checklist, and information provided by the Port Captains and Harbormasters Association, Vallejo Marina, the San Diego Sea Grant Extension Program as well as some industry magazines and publications.

According to Warburton, "This publication is being distributed to everyone who works on boats in the marina and to each boat owner, so everybody is aware of these guidelines. If the Best Management Practices are not fulfilled by the contractors, their future access privileges will be denied. The main goal is to provide resources to the contractors to eliminate marine pollution and to be good stewards in the place they work." If you would like to order a copy of the "Marina's Best Management Practices Guide for Vendors/ Contractors/ Boat Servicers" contact City of Brisbane Marina at (650) 583-6975 or twarburton@ci.brisbane.ca.us

More Pollution Prevention Services for San Francisco

SF Environment
Our home. Our city. Our planet.
SFEnvironment.org • (415) 355-3700
A Department of the City and County of San Francisco

The **San Francisco Department of Environment's Toxics Reduction Program** was recently awarded a used oil opportunity grant by the **California Integrated Waste Management Board** to implement a pollution prevention and used oil recycling infrastructure program for public marinas in San Francisco. The Department welcomes input on outreach and education methods and materials as well as technical issues from the boating and pollution prevention communities.

The **San Francisco Public Marina Outreach & Recycling Program** proposes to implement the following activities over the next three years:

1. Establish a new oil absorbent recycling and exchange program at the Port of San Francisco. Boaters will pick up free oil absorbents and properly dispose of saturated absorbents that will be recycled into new absorbent material.

2. Promote clean boating practices and the proper disposal of used motor oil, filters, bilge pads, and other hazardous wastes through face to face boater education, using **the California Department of Boating and Waterways and the Coastal Commission's Dockwalkers Program**. See www.coastforu.org click on Boating Clean and Green for information on Dockwalkers.

3. Initiate a Used Motor Oil Container Recycling Program.

4. Launch a public education campaign to educate boaters and the general public on the importance of pollution prevention and water quality protection and to increase knowledge of San Francisco's current residential and small commercial hazardous wastes recycling and disposal programs.

For more information about this new program contact Cynthia Knowles at (415) 355-3760 or Cynthia.Knowles@sfgov.org

"Eat Delta Fish Safely" New Warning Sign is Unveiled

By JESSICA KLASOW and MAY LYNN TAN
(California Department of Health Services, Environmental Health Investigations Branch)

Fish contamination is a serious environmental and public health concern in California's Sacramento-San Joaquin Delta watershed, primarily due to historic gold and mercury mining. Mercury bioaccumulates in fish at levels that may pose health risks to people who eat these fish, especially to babies and children whose brains are still developing. Based on mercury levels measured in fish, the Office of Environmental Health Hazard Assessment (OEHHA) issued a health advisory for some types of fish caught in the Delta.

Photo by: May Lynn Tan

The California Department of Health Services (CDHS) is helping to raise awareness about this advisory by conducting outreach to local agencies and community-based organizations. Because many anglers in the Delta may not have access to information from health providers or social services agencies, CDHS also began a pilot project for posting warning signs throughout the Delta.

Through collaboration with stakeholders in the five Delta Counties (Contra Costa, Sacramento, San Joaquin, Solano, and Yolo), CDHS designed and produced a bright yellow warning sign that

conveys the Delta health advisory in eight languages: English, Spanish, Russian, Chinese, Lao, Hmong, Vietnamese, and Cambodian. In the spring of 2006, two versions of the sign became available: one for posting outdoors at fishing locations, and a smaller version for posting in stores and other indoor facilities. CDHS is relying on Delta county agencies, marinas, and community groups to help post the sign. So far, over 200 signs have been posted by partner organizations and businesses.

CDHS is conducting on-going evaluation of the signage project. Evaluation activities will assess sign conditions over time, as well as angler reactions, awareness, and attitudes towards the advisory and the sign. This information will help determine the extent to which signage is an effective method for conveying the warning to anglers.

For more information or to get involved in the signage project, please contact May Lynn Tan *at* 510-620-3627 *or* mtan@dhs.ca.gov.

COMING ATTRACTIONS: THE DELTA BOATING PROGRAM

In next issue: The "Keep the Delta Clean" Program received a $1.6 million grant from the State Water Resources Control Board to expand its program Delta-wide. We will discuss the details of this new "Delta Boating Program."

ANTIOCH MUNICIPAL MARINA: GATEWAY TO THE DELTA

DELTA DESTINATION SERIES

Photo by: John Cruger-Hansen

By JOHN CRUGER-HANSEN and VIVIAN MATUK

Antioch Marina is a public facility located on the San Joaquin River, 47 miles east of San Francisco and the Golden Gate, 65 miles south of Sacramento, and 35 miles west of Stockton. The marina was built in 1988 at the northwestern end of the City of Antioch. The Marina features 310 berths (24-72 feet) with 82 covered berths (32 to 50 feet) and 19 guest berths for boats up to 65'.

The Marina facilities include a 2-acre public park, a fishing pier, shore side picnic areas, and an observation pier. Services at the marina are: Computerized security gates to the docks, locked restrooms and showers for berthers, fuel dock dispensing both gas and diesel, a free waste sewage pumpout open 24 hours a day, electrical service, a coin operated laundry, guest dock/overnight berthing, Humphrey's on the Delta restaurant, public restrooms and a walking trail circling the marina shore ending at a 600 acre wetland preserve with bird watching. The fuel dock utilizes spill containment receptacles placed over the fuel tank vents and has absorbent pads available to fuel dock customers.

As an additional environmental service, the marina offers free "curbside" oil and oil filters recycling to all its tenants. Tenants bring their used oil and oil filters to the curbside collection point and the recycler picks it up. The marina is conveniently located one mile from the East County Household Hazardous Waste Facility where county residents can properly dispose for free batteries and other hazardous wastes. The marina also encourages recycling practices throughout the facility. Recycling bins are found next to the various picnic tables, and in the marina parking lot there is a large recycling center for paper, plastic and aluminum.

According to John Cruger-Hansen, Antioch marina's Harbor Master, "It is our job to make boating as fun, trouble free, affordable, safe, and family oriented as possible. Our customers' boating interests vary greatly, since the customers are all different in personality, boating experience, education, and income. Each brings a different set of needs, skills, background, and emotions to our Marina. Marina staff deals with this full range of people with diplomatic skill, patience, fairness, as well as firmness of policy."

Photo by: City of Antioch

The marina participates in several events throughout the year: On July 4, the City and the Downtown Merchants Association put on a celebration with a parade, street fair and fireworks display over the river, and in September they put on the two-day "Rivertown Jamboree". Each year the marina also celebrates "National Marina Day" with a potluck BBQ for tenants and guests, and participates in "Coastal Cleanup Day" where more than 250 volunteers help clean a two-mile stretch of the San Joaquin River around the marina, picking up several tons of debris and trash. Recently, the Antioch Marina applied for Clean Marina certification and expects to become certified soon.

For more information about Antioch Marina please visit www.ci.antioch.ca.us/CitySvcs/Marina *or call* (925) 779-6957

Management of California's Aquatic Invasive Species

The introduction of Aquatic Invasive Species (AIS) in the marine environment poses a serious threat to the water resources all over the world. These non-native plants and animals are transported via commercial shipping, as fouling organisms on recreational boats, through the release of unwanted aquarium contents, or a variety of other transport vectors related to human activities. Because AIS have few natural controls in their new environments, these species have great potential for rapid colonization and are already having significant impacts on the biodiversity and integrity of aquatic habitats everywhere.

Federal legislation established the national Aquatic Nuisance Species Task Force (ANS Task Force), to coordinate governmental efforts related to ANS Prevention and Control. The ANS Task Force, co-chaired by the United States Fish and Wildlife Service (USFWS) and the National Oceanic and Atmospheric Administration, calls for the development of state and regional management plans to control AIS. States that have management plans signed by the governor and approved by the ANS Task Force are eligible for federal funding from the USFWS.

The San Francisco Estuary Project recently received funds from the Ocean Protection Council to work under the direction of the California Department of Fish and Game to complete the State AIS Management Plan and begin its implementation. The State AIS Management Plan will provide a framework for agency coordination on the prevention, eradication and management of AIS in our state. The Management Plan is expected to be signed by the Governor, and then approved by the ANS Task Force in Spring 2007.

Example of a common AIS: Zebra mussels on a stick. Photo by Simon van Mechelen, University of Amsterdam, 1990

santa monica bay restoration foundation
320 w. 4th street, ste 200
los angeles, ca 90013

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